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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,194	09/21/2006	Andreas Lingens	5041.1003	2636

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EXAMINER	
MATTHIAS, JONATHAN R	
ART UNIT	PAPER NUMBER
3748	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,194	LINGENS ET AL.	
	Examiner	Art Unit	
	Jonathan Matthias	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Amendment filed on March 2nd, 2009 has been entered. Claims 13-31 are pending in the application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "closure wall configured to be partially opened to enable the disposing of the particle constituents" of claims 19 and 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 13-15, 17-20, 23, 24, 28, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent Application Publication No. 10036597 to Lepperhoff et al. (Lepperhoff). This document was originally published in the German language; a machine translation was utilized for the basis of this rejection. Additionally, paragraph numbers have been added for ease of reference.

6. In reference to claim 13, Lepperhoff discloses forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side (at 2, Fig. 1) to a clean gas side (at 3, Fig. 1) of the filter so as to separate out particles and particle constituents from the stream (pars. 0001-0002), wherein the particles and particle constituents are collected by the filter wall on the raw gas side (par. 0003); and performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall (pars. 0002-0003, 0005) and moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device (14, Fig. 1) disposed on the raw gas side (par. 0005).

7. In reference to claim 14, Lepperhoff discloses wherein the particles include soot and the particle constituents includes ashes (pars. 0002, 0003, 0005).

8. In reference to claim 15, Lepperhoff discloses the regeneration process is performed continuously during operation of the filter (par. 0015).

9. In reference to claim 17, Lepperhoff discloses the fluid is a gas (par. 0001).

10. In reference to claim 18, Lepperhoff discloses the filter is a particle filter for an internal combustion engine (par. 0001).

11. In reference to claim 19, Lepperhoff discloses a method that is substantially similar to that which is claimed in claim 13, further including the filter wall includes a plurality of channels (13.1, Fig. 1) on the raw gas side, each channel closed by a closure wall (formed by 14, Fig. 1) configured to be partially opened to enable the disposing of the particle constituents (par. 0016).

12. In reference to claim 20, Lepperhoff discloses the fluid stream is imparted with a pulsating flow to move the removed particle constituents to the receiving device (par. 0005).

13. In reference to claim 23, with regards to the limitation wherein a portion of the fluid stream flows through the receiving device, due to the inherent nature of a pulsating flow such as the exhaust from an internal combustion, the fluid stream will necessarily experience back-flow and flow through the receiving device (14, Fig. 1), and the method of Lepperhoff thereby meets the limitations of the claim.

14. In reference to claim 24, Lepperhoff discloses the receiving device includes a regenerable filter surface (pars. 0002, 0003, 0005, 0015).

15. In reference to claim 28, Lepperhoff discloses the regeneration process is performed thermally (pars. 0002, 0003, 0005, 0015).

16. In reference to claim 31, Lepperhoff discloses a filter wall (8, Fig. 1) dividing a clean gas side (at 3, Fig. 1) and a raw gas side (at 2, Fig. 1) of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the filter wall and to enable the particles and particle constituents to be removed in a regeneration process (pars. 0001-0003, 0005), wherein the filter wall includes a plurality of channels (13.1, Fig. 1) on the raw gas side, each channel being closed by a closure wall (formed by 14, Fig. 1) configured to be at least partially openable so as to enable disposal of the particle constituents (par. 0016).

17. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,375,695 to Machida et al. (Machida).

18. In reference to claim 29, Machida discloses a filter wall (20, Figs. 15-19) dividing a clean gas side (at 210, Figs. 15-19) and a raw gas side (at 212, Figs. 15-19) of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall and to enable the particles to be removed in a regeneration process (see Figures, Abstract, Specification, etc.); and a receiving device (6, Figs. 10, 15-19) configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents, wherein the receiving device is connectable on the raw gas side of the filter wall (see Figs. 15-19).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

21. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff.

22. Lepperhoff discloses the method of claim 13, but fails to specifically disclose the continuous moving of the particle constituents. However, Lepperhoff discloses the benefits of moving the particle constituents when the filter is hot (par. 0025). Furthermore, the particle constituents will continuously accumulate on the filter wall and the filter will be continuously heated by exhaust gas during operation of the engine. Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to have performed the moving of the particle constituents continually during

operation to simultaneously take advantage of the hot filter conditions and continually remove the particle constituents, thereby improving filter flow.

23. Claims 21, 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff as applied to claim 13 above, and further in view of Machida.

24. In reference to claims 21, 22, 25, and 26, Lepperhoff discloses the method of claim 13, but fails to specifically disclose feeding pressurized air into the filter on the raw gas side to move the removed particle constituents through the receiving device and out of a flow outlet leading out of the receiving device and into the clean gas side, and closing an outlet leading out of the clean gas side of the filter. Machida discloses a similar method (see Figures, Abstract, Specification, etc.) that utilizes feeding pressurized air into the filter on the raw gas side to move particles through a receiving device (61, Fig. 10) and out of a flow outlet (60, Fig, 10) leading out of the receiving device and into the clean gas side (in this case, outside the system, which is on the "clean gas side"). Machida further discloses closing an outlet leading out of the clean gas side (col. 6, line 55 – col. 7, line 5). It has been held that applying a known technique to a known method to yield predictable results is obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have utilized the feeding of pressurized air, as suggested by Machida, in the method Lepperhoff to have the predictable result of moving the removed particles to the receiving device, and then out of the system entirely. Furthermore, it would have been obvious to one having ordinary skill in the art at the time of invention to have

incorporated closing an outlet leading out of the clean gas side, as suggested by Machida, into the method of Lepperhoff to have the predictable result of preventing the pressurized air from escaping out of the tailpipe, rather than being used to move the removed particle constituents.

25. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff as applied to claim 13 above, and further in view of US Patent No. 4,902,487 to Cooper et al. (Cooper).

26. Lepperhoff discloses the method of claim 13 but fails to specifically disclose the regeneration process includes feeding nitrogen dioxide into the filter. Copper is brought in merely to demonstrate that it is conventional to feed nitrogen dioxide into a diesel particulate filter in order to perform a regeneration process (col. 1, line 66 – col. 2, line 66). It would have been obvious to one having ordinary skill in the art at the time of invention to have used the conventional process as demonstrated by Cooper into the method of Lepperhoff to have the predictable result of combusting soot in the filter.

27. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Machida as applied to claim 29 above, and further in view of Lepperhoff.

28. Machida discloses the filter of claim 29, but fails to specifically disclose the receiving device is removably connectable to the filter wall. Lepperhoff discloses a similar system that utilizes a receiving device (14, Fig. 1) that is removably connectible to the filter wall (par. 0016). It would have been obvious to one having ordinary skill in the art at the time of invention to have connected the receiving device of Machida removably to the filter wall, as demonstrated by Lepperhoff, to have the predictable

result of making the process of cleaning the particle constituents from the receiving device easier.

Response to Arguments

29. Applicant's arguments with respect to claims 1-28, 30, and 31 have been considered but are moot in view of the new ground(s) of rejection.

30. Applicant's arguments on page 8, with respect to claim 29 have been fully considered but they are not persuasive. With regards to the argument that Machida does not disclose "a receiving device configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold he particle constituents", one can see from the embodiments depicted in Figures 15-19 that the exhaust gas flow can freely flow into process portion 6, and, due to the process portion possessing a discharge outlet (depicted as 60 in Fig. 10), can flow through. Therefore, the rejection is proper and remains.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent No. 5,930,994 to Shimato et al. and US Patent No. 4,875,335 to Arai et al. each disclose similar filter cleaning methods and apparatuses.

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

33. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Matthias whose telephone number is (571) 270-5840. The examiner can normally be reached on Monday-Friday 8:00AM-5:00PM.

35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

36. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748

JM